

CALIBRE™ 2060-3

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 2060-3 Polycarbonate resin is used in medical applications involving steam or ethylene oxide sterilization - though suitability for use in these applications is dependent upon autoclave cycle times and temperatures. CALIBRE 2060-3 provides exceptional clarity, heat resistance, impact strength and has low contamination levels. The CALIBRE 2000 series of resins have been evaluated with respect to ISO 10993-1 (Biological Evaluation of Medical Devices) and are suitable for use in approved medical applications.

Main Characteristics

Tested under ISO 10993

FDA 21 CFR 177.1580

Lipid resistance

Applications

Medical application

Injection or extrusion applications

General Information			
Features	Autoclave Sterilizable		
	Ethylene Oxide Sterilizable		
	High Clarity		
	High Heat Resistance		
	High Impact Resistance		
	Steam Sterilizable		
Uses	Medical/Healthcare Applications		
Agency Ratings	ISO 10993 2		
	USP Unspecified Rating		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.5	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	74		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			

-- 1	2480	MPa	ASTM D638
--	2480	MPa	ISO 527-2/50
Tensile Strength			
Yield 2	60.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break 3	72.4	MPa	ASTM D638
Break	72.0	MPa	ISO 527-2/50
Tensile Elongation			
Break 4	150	%	ASTM D638
Break	150	%	ISO 527-2/50
Flexural Modulus			
-- 5	2410	MPa	ASTM D790
-- 6	2410	MPa	ISO 178
Flexural Strength			
-- 7	96.5	MPa	ASTM D790
-- 8	96.0	MPa	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	960	J/m	ASTM D256
23°C	93	kJ/m ²	ISO 180/A
Unnotched Izod Impact (23°C)	No Break		ASTM D256, ISO 180
Instrumented Dart Impact (23°C, Total energy)	93.8	J	ASTM D3763
Tensile Impact Strength	630	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	146	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	132	°C	ASTM D648, ISO 75-2/A
1.8 MPa, Annealed	143	°C	ASTM D648, ISO 75-2/A
Vicat Softening Temperature	151	°C	ISO 306/B50, ASTM D1525 ⁹
CLTE - Flow (-40 to 82°C)	6.8E-5	cm/cm/°C	ASTM D696
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542, ISO 489
Transmittance ¹⁰ (3180 µm)	89.0	%	ASTM D1003
Haze ¹¹ (3180 µm)	1.0	%	ASTM D1003
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		

5.	Method I (3 point load), 2.0 mm/min
6.	2.0 mm/min
7.	Method I (3 point load), 2.0 mm/min
8.	2.0 mm/min
9.	Rate A (50°C/h), Loading 2 (50 N)
10.	1/8 inch thickness plaque
11.	1/8 inch thickness plaque

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

